NASA Facts

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Space Administration

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EARTH SCIENCE APPLICATIONS
FACT SHEET

Stennis Space Center in south Mississippi is NASA's lead center for Earth science applications. In support of NASA's Earth Science Enterprise (ESE), the Geospace Applications and Development Directorate (GADD) at Stennis conducts a broad range of remote sensing applications projects. Its mission is to "extend the benefits of ESE's discoveries, knowledge, technology and data beyond the traditional science community – to turn Earth science results and capabilities into practical tools for solving practical problems."

Remote sensing is a way to gather information about the Earth using aircraft or satellites. This emerging multibillion-dollar industry has the potential to increase U.S. economic competitiveness in world markets and provide NASA with a reliable commercial source for scientific data.

The research of Stennis scientists in Earth Science applications focuses on the use of remote sensing to evaluate the health and productivity of our nation's coastal oceans, forests and agricultural lands. Along with land-use mapping and flood plain management, the most valuable applications of remote sensing technology include crop condition monitoring, forest management, environmental monitoring and natural hazard assessments. Using digital images, interpreting photographs, and comparing results to ground truth data, the GADD provides information that has real-world applications.

Major goals of the Earth science applications are:

- Extending the benefits of NASA derived data, research and technology from global and national levels to state, local, regional and tribal levels

- Supporting the development of a robust remote sensing community involving public and private sector partners

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- Transferring remote sensing and associated technologies to the user community

- Promoting the use of commercial data, data products and operational capabilities by public sector organizations

Linking ESE scientists with the remote sensing industry to develop mutually beneficial partnerships enables the development of technologies that contribute to exploration and discovery in a wide array of scientific disciplines, including geography, archeology, paleontology and paleoanthropology.

NASA personnel are also involved in seatruthing, which involves going out to an area of the ocean and taking measurements of phytoplankton, sediment and other constituents of the sea. Seatruthing, used to verify and calibrate data acquired by remote sensing satellites such as the Sea-viewing Wide Field-of-View Sensor, is expected to play a major role in global climate change research.

NASA works in collaboration with the Naval Oceanographic Office at Stennis to perform joint field surveys. These activities will provide an even better understanding of coastal environments.

In addition, representatives of GADD collaborate with U.S. companies, universities, national trade associations and other government agencies to develop and validate potential market-driven applications.

For more information on remote sensing applications research and development, contact the Stennis Space Center Geospace Applications and Development Directorate (GADD) at (228) 688-2042, or access the GADD home page at www.crsp.ssc.nasa.gov.